Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.   (currently amended) An apparatus for interfacing a high-speed link to a network device, comprising:

a receiver module, operating at a first clock rate, for receiving a stream of in-coming data from the high-speed link;

a framer module, operating at a second clock rate, for deserializing the stream of in-coming data onto a multi-line bus and extracting data packets from the deserialized data on the multi-line bus, wherein the second clock rate is lower than the first clock rate; [[and]]

a sprayer module to receive the extracted data packets from the framer module and, for each of the extracted data packets, select one of a plurality of processing paths in the network device and transmit the extracted data packet to the selected processing path;

a deframer module, operating at the second clock rate, for receiving data packets and processing the data packets into a stream of out-going data for transmission on the high-speed link;

a transmitter module, operating at the first clock rate, for transmitting the stream of out-going data onto the high-speed link; and

a desprayer module for receiving data packets from the plurality of processing paths and transmitting the received data packets to the deframer module.

2.   (original) The apparatus according to claim 1, wherein the receiver module

comprises optics and circuitry for receiving optical signals from a SONET OC-192 link.

3.   (original) The apparatus according to claim 1, wherein the receiver module comprises optics and circuitry for receiving optical signals from a SONET OC-768 link.

4.   (previously presented) The apparatus according to claim 1, wherein the plurality of processing paths includes a plurality of preprocessing modules for processing the extracted data packets.

5.   (previously presented) The apparatus according to claim 1, wherein the plurality of processing paths includes a plurality of switching/forwarding modules for switching or forwarding the extracted data packets.

6.   (previously presented) The apparatus according to claim 4, wherein the sprayer module is configured to transmit each extracted data packet to one of the plurality of preprocessing modules based on a load balancing technique.

7.   (original) The apparatus according to claim 6, further comprising a plurality of memories, each memory corresponding to one of the plurality of preprocessing modules,
      wherein each preprocessing module comprises a memory management module for storing portions of data packets into its corresponding memory.

8.   (original) The apparatus according to claim 7, wherein the receiver module, the framer module, the sprayer module, the plurality of preprocessing modules, and the plurality of memories are mounted onto a single board.

9.   (original) The apparatus according to claim 7, wherein the receiver module, the framer module, the sprayer module, the plurality of preprocessing modules, and the plurality of memories are integrated onto a single chip.

10.   (canceled)

11.   (canceled)

12.   (currently amended) An apparatus for interfacing at least one line interface card to a plurality of switching/forwarding modules of a network device, comprising:

a plurality of preprocessing modules for processing data packets and transmitting the processed data packets to respective switching/forwarding modules; [[and]]

a sprayer module for receiving data packets from at least one line interface card and, for each received data packet, selecting one of the plurality of preprocessing modules and transmitting the received data packet to the selected preprocessing module; and

a desprayer module for receiving data packets from the plurality of preprocessing modules and outputting the received data packets to the at least one line interface card.

13.   (original) The apparatus according to claim 12, further comprising a plurality of memories, each memory corresponding to one of the plurality of preprocessing modules,

wherein each preprocessing module comprises a memory management module for storing portions of data packets into its corresponding memory.

14.   (original) The apparatus according to claim 13, wherein the plurality of preprocessing modules, the plurality of memories, and the sprayer modules are mounted onto a single board.

15.   (original) The apparatus according to claim 13, wherein the plurality of preprocessing modules, the plurality of memories, and the sprayer modules are integrated onto a single chip.

16.   (canceled)

17.   (currently amended) A networking device, comprising:

a sprayer module for receiving data packets and, for each of the data packets, selecting one of a plurality of channels and outputting the data packet on the selected channel;

a plurality of preprocessing modules for processing data packets, each preprocessing module receiving data packets from one of the channels of the sprayer module; [[and]]

a plurality of switching/forwarding modules, each switching/forwarding module receiving data packets from a corresponding one of the plurality of preprocessing modules; and

a desprayer module for receiving data packets on a plurality of channels, each corresponding to one of the plurality of preprocessing modules.

18.　　(original) The networking device according to claim 17, further comprising:

a framer module, operating at a first clock rate, for deserializing a stream of in-coming data onto a multi-line bus, extracting data packets from the deserialized data on the multi-line bus, and transmitting the extracted data packets to the sprayer module.

19.　　(original) The networking device according to claim 18, further comprising:

a receiver module, operating at a second clock rate, for receiving a stream of in-coming data from a high-speed link and transmitting the stream of in-coming data to the framer module;

wherein the first clock rate is lower than the second clock rate.

20.　　(original) The networking device according to claim 19, wherein the receiver module comprises optics and circuitry for receiving optical signals from a SONET OC-192 link.

21.　　(original) The networking device according to claim 19, wherein the receiver module comprises optics and circuitry for receiving optical signals from a SONET OC-768 link.

22.　　(canceled)

23.　　(currently amended) The networking device according to claim [[22]] 17, further

comprising:

a deframer module, operating at a first clock rate, for receiving data packets from the

desprayer module and processing the data packets into a stream of out-going data for

transmission on a high-speed link.

24.   (original) The networking device according to claim 23, further comprising:

a transmitter module, operating at a second clock rate, for transmitting the stream of

out-going data onto the high-speed link,

wherein the first clock rate is lower than the second clock rate.

25.   (original) The networking device according to claim 24, wherein the transmitter

module comprises optics and circuitry for transmitting optical signals onto a SONET OC-192

link.

26.   (original) The networking device according to claim 24, wherein the transmitter

module comprises optics and circuitry for transmitting optical signals onto a SONET OC-768

link.

27.   (canceled)

28.   (canceled)

29.   (new) A method performed by a network device that includes a sprayer module and a desprayer module connected to a plurality of preprocessing modules, each of the preprocessing modules connecting to a switching or forwarding module, the method comprising:

receiving, by the sprayer module, a plurality of data packets from an in-coming link;

selecting, by the sprayer module for each of the data packets, one of the preprocessing modules;

outputting, by the sprayer module, each of the data packets to the selected preprocessing module;

receiving and processing, by the selected preprocessing module, data packets from the sprayer module;

outputting, by a first one of the preprocessing modules, a processed data packet to the switching or forwarding module;

switching or forwarding, by the switching or forwarding module, the processed data packet to a second one of the preprocessing modules;

receiving, by the desprayer module, the processed data packets from the preprocessing modules; and

outputting, by the desprayer module, the received data packets for transmission on an out-going link.